

What is claimed is:

1. A compound 8 to 80 nucleobases in length targeted to a nucleic acid molecule encoding diacylglycerol acyltransferase 1, wherein said compound specifically hybridizes with said nucleic acid molecule (SEQ ID NO: 4) encoding diacylglycerol acyltransferase 1 and inhibits the expression of diacylglycerol acyltransferase 1.
2. The compound of claim 1 comprising 12 to 50 nucleobases in length.
3. The compound of claim 2 comprising 15 to 30 nucleobases in length.
4. The compound of claim 1 comprising an oligonucleotide.
5. The compound of claim 4 comprising an antisense oligonucleotide.
6. The compound of claim 4 comprising a DNA oligonucleotide.
7. The compound of claim 4 comprising an RNA oligonucleotide.
8. The compound of claim 4 comprising a chimeric oligonucleotide.
9. The compound according to claim 8, wherein said chimeric oligonucleotide is 20 nucleotides in length, comprising ten 2'-deoxynucleotides, flanked on each side by five 2'-methoxyethyl nucleotides, wherein the internucleoside

linkages are phosphorothioate, and all cytidine residues are 5-methylcytidines.

10. The compound of claim 4 wherein at least a portion of said compound hybridizes with RNA to form an oligonucleotide-RNA duplex.

11. The compound of claim 1 having at least 70% complementarity with a nucleic acid molecule encoding diacylglycerol acyltransferase 1 (SEQ ID NO: 4) said compound specifically hybridizing to and inhibiting the expression of diacylglycerol acyltransferase 1.

12. The compound of claim 1 having at least 80% complementarity with a nucleic acid molecule encoding diacylglycerol acyltransferase 1 (SEQ ID NO: 4) said compound specifically hybridizing to and inhibiting the expression of diacylglycerol acyltransferase 1.

13. The compound of claim 1 having at least 90% complementarity with a nucleic acid molecule encoding diacylglycerol acyltransferase 1 (SEQ ID NO: 4) said compound specifically hybridizing to and inhibiting the expression of diacylglycerol acyltransferase 1.

14. The compound of claim 1 having at least 95% complementarity with a nucleic acid molecule encoding diacylglycerol acyltransferase 1 (SEQ ID NO: 4) said compound specifically hybridizing to and inhibiting the expression of diacylglycerol acyltransferase 1.

15. The compound of claim 1 having at least one modified internucleoside linkage, sugar moiety, or nucleobase.

16. The compound of claim 1 having at least one 2'-O-methoxyethyl sugar moiety.

17. The compound of claim 1 having at least one phosphorothioate internucleoside linkage.

18. The compound of claim 1 having at least one 5-methylcytosine.

19. A method of inhibiting the expression of diacylglycerol acyltransferase 1 in cells or tissues comprising contacting said cells or tissues with the compound of claim 1 so that expression of diacylglycerol acyltransferase 1 is inhibited.

20. A method of screening for a modulator of diacylglycerol acyltransferase 1, the method comprising the steps of:

a. contacting a preferred target segment of a nucleic acid molecule encoding diacylglycerol acyltransferase 1 with one or more candidate modulators of diacylglycerol acyltransferase 1, and

b. identifying one or more modulators of diacylglycerol acyltransferase 1 expression which modulate the expression of diacylglycerol acyltransferase 1.

21. The method of claim 20 wherein the modulator of diacylglycerol acyltransferase 1 expression comprises an oligonucleotide, an antisense oligonucleotide, a DNA oligonucleotide, an RNA oligonucleotide, an RNA oligonucleotide having at least a portion of said RNA oligonucleotide capable of hybridizing with RNA to form an oligonucleotide-RNA duplex, or a chimeric oligonucleotide.

22. A diagnostic method for identifying a disease state comprising identifying the presence of diacylglycerol acyltransferase 1 in a sample using at least one of the primers comprising SEQ ID NOs 5 or 6, or the probe comprising SEQ ID NO: 7.
23. A kit or assay device comprising the compound of claim 1.
24. A method of treating an animal having a disease or condition associated with diacylglycerol acyltransferase 1 comprising administering to said animal a therapeutically or prophylactically effective amount of the compound of claim 1 so that expression of diacylglycerol acyltransferase 1 is inhibited.
25. The method of claim 24 wherein the condition involves abnormal lipid metabolism.
26. The method of claim 24 wherein the condition involves abnormal cholesterol metabolism.
27. The method of claim 24 wherein the condition is atherosclerosis.
28. The method of claim 24 wherein the condition is an abnormal metabolic condition.
29. The method of claim 28 wherein the abnormal metabolic condition is hyperlipidemia.
30. The method of claim 24 wherein the disease is diabetes.

31. The method of claim 30 wherein the diabetes is Type 2 diabetes.

32. The method of claim 24 wherein the condition is obesity.

33. The method of claim 24 wherein the disease is cardiovascular disease.

34. A method of modulating glucose levels in an animal comprising administering to said animal the compound of claim 1.

35. The method of claim 34 wherein the animal is a human.

36. The method of claim 34 wherein the glucose levels are plasma glucose levels.

37. The method of claim 34 wherein the glucose levels are serum glucose levels.

38. The method of claim 34 wherein the animal is a diabetic animal.

39. A method of preventing or delaying the onset of a disease or condition associated with diacylglycerol acyltransferase 1 in an animal comprising administering to said animal a therapeutically or prophylactically effective amount of the compound of claim 1.

40. The method of claim 39 wherein the animal is a human.

41. The method of claim 39 wherein the condition is an abnormal metabolic condition.
42. The method of claim 41 wherein the abnormal metabolic condition is hyperlipidemia.
43. The method of claim 39 wherein the disease is diabetes.
44. The method of claim 43 wherein the diabetes is Type 2 diabetes.
45. The method of claim 39 wherein the condition is obesity.
46. A method of modulating cholesterol levels in an animal comprising administering to said animal the compound of claim 1.
47. The method of claim 46 wherein the animal is a human.
48. The method of claim 46 wherein the cholesterol levels are plasma cholesterol levels.
49. The method of claim 46 wherein the cholesterol levels are serum cholesterol levels.
50. A method of lowering triglyceride levels in an animal comprising administering to said animal the compound of claim 1.
51. The method of claim 50 wherein the animal is a human.

52. The method of claim 50 wherein the triglyceride levels are plasma triglyceride levels.

53. The method of claim 50 wherein the triglyceride levels are serum triglyceride levels.

54. A method of reducing serum glucose levels in an animal comprising contacting said animal with the compound of claim 1.

55. A method of reducing DGAT1 levels in the liver of an animal comprising contacting said animal with the compound of claim 1.

56. A method of reducing circulating insulin levels in an animal comprising contacting said animal with the compound of claim 1.

57. The method according to claim 56, wherein said reduction is sustained over at least 5 weeks.

58. A method of decreasing fasted serum insulin levels in an animal comprising contacting said animal with the compound of claim 1.

59. A method of reducing serum glucose levels in an animal comprising contacting said animal with the compound of claim 1.

60. A method of improving an animal's performance on glucose tolerance tests and insulin tolerance tests comprising contacting said animal with the compound of claim 1.

61. A method of reducing circulating triglycerides in an animal comprising contacting said animal with the compound of claim 1.

62. A method of reducing liver triglycerides in an animal comprising contacting said animal with the compound of claim 1.

63. A method of reducing free fatty acids in the liver of an animal comprising contacting said animal with the compound of claim 1.